

## CLAIMS

We Claim:

1        1.        A data structure for transferring data between a hub and a connected remote  
2        node, said data structure comprising:

3                a preamble for synchronizing the remote node to the hub;

4                a control bus status field for indicating status to the remote node of a control  
5        bus at said hub;

6                a hub control field for exchanging message control information between the  
7        remote node and the hub;

8                a control data field for exchanging control data information between the  
9        remote node and the hub; and

10               a plurality of data fields for transferring data between the remote node and  
11        the hub synchronized with other nodes by a frame clock.

1        2.        A data structure as in claim 1, wherein communication between the  
2        connected node and the hub is a serial transmission and the preamble includes a  
3        string of alternating ones and zeros.

1        3.        A serial data structure as in claim 2, wherein the string of alternating ones  
2        and zeros is of sufficient length to extract a data transmission clock.

1        4.        A serial data structure as in claim 3, wherein the string of alternating ones  
2        and zeros is of a sufficient length to synchronize a phase locked loop.

1        5.        A serial data structure as in claim 4, wherein the preamble provides  
2        information for extracting the frame clock.

1        6.        A serial data structure as in claim 5, wherein the preamble is three bytes  
2        wide.

- 1 7. A data structure as in claim 1, wherein the hub control field is a single byte  
2 wide, each remote node corresponding with the corresponding connected hub port  
3 through the hub control field.
- 1 8. A data structure as in claim 7, wherein each hub message between any said  
2 hub port and a corresponding said connected remote node is four bytes long.
- 1 9. A data structure as in claim 8, wherein each hub message includes an  
2 attention field, a command field, a channel field and a value field.
- 1 10. A data structure as in claim 9, wherein when the attention field is all ones, an  
2 indication is being provided that a hub message is beginning to be sent.
- 1 11. A data structure as in claim 9, wherein the channel field includes a channel  
2 number and an indication of whether a channel identified by said channel number is  
3 a listening channel or a source channel.
- 1 12. A data structure as in claim 9, wherein the command field includes a  
2 command selected from the group of commands including a do nothing command, a  
3 set channel value command, a get channel value command, an acknowledge message  
4 and an error indication.
- 1 13. A data structure as in claim 1, wherein the control data field is a single byte  
2 wide and each communications packet between the hub and a connected remote  
3 node includes a portion of a control message for control messaging between peers in  
4 said peer-to-peer network.
- 1 14. A control data structure as in claim 1, wherein the plurality of data fields  
2 includes an intercom data field and a plurality of left and right audio fields.

1 15. A data structure as in claim 14, wherein the intercom field is twelve bits  
2 long.

1 16. A data structure as in claim 15, wherein each of the left and right audio fields  
2 is eighteen bits long.

1 17. A data structure as in claim 16, wherein the data structure includes four left  
2 and right audio channels corresponding to four stereo audio channels.